

CLAIMS:

What is claimed is:

- 42-5/406
6
447
1-10
264/109
11-20
1. An apparatus for loading a mold cavity with particulate moldable material comprising:
a moveable table member;
a target area defined on said table member, said target area comprising an opening in said table member;
material delivery means for delivering a measured quantity of the particulate moldable material onto said target area;
a door positioned under said target area;
means for moving said moveable table member between a first position where said target area is loaded and a second position where said target area is positioned over the mold cavity; and
means for selectively opening said door to release the particulate moldable material into the mold cavity.
 2. The apparatus of claim 1 wherein said material delivery means comprises a hopper device driven in reciprocating fashion across said target area.

1 3. The apparatus of claim 2 wherein said hopper device comprises a tapering
2 enclosure having an opening at the bottom thereof and defining an interior
3 space, and further comprising a screen positioned in said interior space for
4 sifting the particulate moldable material loaded therein.

1 4. The apparatus of claim 3 wherein said hopper device further comprises a
2 rotating blade device positioned within said enclosure and further
3 comprises a screen positioned above said rotating blade device and
4 arranged such that it is vibrated by said rotating blade device.

1 5. The apparatus of claim 4 further comprising means for driving said rotating
2 blade device in response to said reciprocating motion of said hopper device
3 and means for maintaining the direction of rotation of said rotating blade
4 device during reversal in the direction of travel of said hopper device.

1 6. An apparatus for compression molding items from particulate moldable
2 material comprising:
3 a compression mold having a mold core and a mold cavity, wherein said
4 mold cavity has a selectively moveable ring positioned around the
5 periphery thereof;
6 a moveable table member positioned proximate said compression mold;
7 a target area defined on said table member, said target area comprising an
8 opening in said table member;
9 material delivery means for delivering a measured quantity of the
10 particulate moldable material onto said target area;
11 a door positioned under said target area for selectively releasing the
12 particulate moldable material into the mold cavity; and
13 means for moving said table member to place said target area over said
14 mold cavity; and
15 means for selectively opening said door and thereby releasing said
16 particulate moldable material into said mold cavity.

1 7. The apparatus of claim 6 wherein said material delivery means comprises a
2 hopper device driven in reciprocating fashion across said target area.

1 8. The apparatus of claim 7 wherein said hopper device comprises a tapering
2 enclosure having an opening at the bottom thereof and defining an interior
3 space, and further comprising a screen positioned in said interior space for
4 sifting the particulate moldable material loaded therein.

1 9. The apparatus of claim 8 wherein said hopper device further comprises a
2 rotating blade device positioned within said enclosure and further
3 comprises a screen positioned above said rotating blade device and
4 arranged such that it is vibrated by said rotating blade device.

1 10. The apparatus of claim 9 further comprising means for driving said rotating
2 blade device in response to said reciprocating motion of said hopper device
3 and means for maintaining the direction of rotation of said rotating blade
4 device during reversal in the direction of travel of said hopper device.

1 11. A method of loading a mold cavity of a compression mold with particulate
2 moldable material comprising:
3 positioning a moveable table member proximate the compression mold,
4 wherein said table member has defined thereon:
5 a target area comprising an opening in said table member;
6 material delivery means for delivering a measured quantity of
7 the particulate moldable material as a layer onto said
8 target area; and
9 a door positioned under said target area for selectively
10 releasing the particulate moldable material into the
11 mold cavity;
12 loading said target area from said material delivery means;
13 selectively moving said table member to place said loaded target area over
14 the mold cavity; and
15 opening said door to release said particulate moldable material into the
16 mold cavity to create a layer of particulate moldable material therein.

1 12. The method of claim 11 wherein said material delivery means comprises a
2 hopper device driven in reciprocating fashion across said target area.

1 13. The method of claim 12 wherein said hopper device comprises a tapering
2 enclosure having an opening at the bottom thereof and defining an interior
3 space, and further comprising a screen positioned in said interior space for
4 sifting the particulate moldable material loaded therein.

1 14. The method of claim 13 wherein said hopper device further comprises a
2 rotating blade device positioned within said enclosure and further
3 comprises a screen positioned above said rotating blade device and
4 arranged such that it is vibrated by said rotating blade device.

1 15. The method of claim 14 further comprising driving said rotating blade
2 device in response to said reciprocating motion of said hopper device and
3 maintaining the direction of rotation of said rotating blade device during
4 reversal in the direction of travel of said hopper device.

1 16. A method of compression molding a molded part with particulate moldable
2 material comprising:
3 providing a mold cavity having a peripheral rim defined thereon, with a
4 moveable ring member, wherein said ring member surrounds said
5 rim of said mold cavity;
6 positioning a moveable table member proximate said mold cavity, wherein
7 said table member has defined thereon:
8 a target area comprising an opening in said table member;
9 material delivery means for delivering a measured quantity of
10 the particulate moldable material as a layer onto said
11 target area; and
12 a door positioned under said target area for selectively
13 releasing the particulate moldable material into said
14 mold cavity;
15 layering the particulate moldable material onto said target area on said table
16 member from said material delivery means;
17 selectively moving said table member to place said target area over said
18 mold cavity;

19 opening said door to release the moldable material into said mold cavity to
20 thereby create a layer of particulate moldable material therein;
21 forcing a mold core against said mold cavity and said moldable material
22 placed therein, thereby compressing said moldable material, and
23 heating said moldable material to form a molded part; and
24 moving said mold core and said ring member to expose the molded part.

1 17. The method of claim 16 wherein said material delivery means comprises a
2 hopper device driven in reciprocating fashion across said target area.

1 18. The method of claim 17 wherein said hopper device comprises a tapering
2 enclosure having an opening at the bottom thereof and defining an interior
3 space, and further comprising a screen positioned in said interior space for
4 sifting the particulate moldable material loaded therein.

1 19. The method of claim 18 wherein said hopper device further comprises a
2 rotating blade device positioned within said enclosure and further
3 comprises a screen positioned above said rotating blade device and
4 arranged such that it is vibrated by said rotating blade device.

1 20. The method of claim 19 further comprising driving said rotating blade
2 device in response to said reciprocating motion of said hopper device and
3 maintaining the direction of rotation of said rotating blade device during
4 reversal in the direction of travel of said hopper device.